

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909.

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 947. (No. 7, Vol. XIX.)

FEBRUARY 17, 1927

Weekly, Price 6d.
Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2

Telephone: Gerrard 1828. Telegrams: Truditur, Westcent, London.

Annual Subscription Rates, Post Free:

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

* Foreign subscriptions must be remitted in British currency.

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"FLIGHT" PHOTOGRAPHS.

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1927	
Feb. 15	... Hampshire Air Pageant.
Feb. 17	... "The Design and Operation of Commercial Aircraft." Major R. H. Mayo, before R.Ae.S.
Feb. 19	... R.A.F. v. Navy, Rugby Match, Twickenham.
Feb. 22	... "Aviation in Australia," Flt.-Lt. J. Renison Bell (R.A.A.F.), before Inst.Ae.E.
Feb. 22	... "Artificial Light as an Aid to Aerial Navigation," by Mr. H. N. Green, before Illuminating Eng. Soc.
Feb. 28	... Aero Golfing Soc. Match, Rickmansworth.
Mar. 3	... "The Spinning of Aeroplanes." Mr. L. W. Bryant, before R.Ae.S.
Mar. 8	... "Portable Hangars." Major H. N. Wyllie, before Inst. Ae.E.

EDITORIAL COMMENT.



BY the time this week's issue of FLIGHT reaches the hands of our readers the Secretary of State for Air, Sir Samuel Hoare, Lady Maud Hoare, and their small party, including Major C. Ll. Bullock, Sir Samuel's Private Secretary, Corporal Hetherington, the Air Minister's batman, and Major Woods Humphery, of Imperial Airways, Ltd., will have arrived back at Croydon from their long tour to India.

The End of a Great Flight

That is unless the fog that has been paralysing England during the last few days, takes it into its head to spoil everything by preventing the Air Minister's party from adhering to their intention of returning to London by air from Paris. The whole tour has gone through without a hitch, and it would be just like our contrary weather to prevent the last item on the programme from being carried out in its entirety, and thus prevent a fitting finish to what must for ever remain a very memorable flight. These notes are necessarily being written a couple of days before the date scheduled for Sir Samuel Hoare's return, and thus we are faced either with practising what, we believe, the daily press terms "intelligent anticipation," or else put up with the somewhat invidious position of writing of the future something which our readers will read only after the event to which reference is made has taken place. There is, however, one way out of the dilemma, namely, to disregard entirely the manner and even the time of Sir Samuel's home-coming, merely taking it for granted that he *will* assuredly arrive before Friday next. If that line is taken it becomes possible to congratulate the Air Minister, Lady Maud, and the other members of the party on their return from the finest propaganda flight ever undertaken, and to wish them a very hearty "welcome home."

Seriously, however, there can be no doubt that by their tour to the East, Sir Samuel and Lady Maud Hoare have done a vast deal of good for British aviation. The fact that a Cabinet Minister has flown some 12,000 miles without a hitch has been favourably commented upon not only in the British press at

home and in the Dominions, but also to a quite surprising extent in the press of, as someone put it with reference to another matter, the rest of "the whole civilised world and America." The fact that the British Air Minister was accompanied by his wife has helped immeasurably in focussing public attention at home and abroad on the flight, and thus the tour to India has been the subject of news, comment and illustrations all over the world. That the prestige of British aviation has thereby benefited is obvious, and if Sir Samuel had done nothing more than make the flight and pay a few friendly calls he would have earned the gratitude of all who have the future of British aviation at heart. The Secretary of State for Air has, however, done a great deal more than that. By his conferences with high authorities in Egypt and India, by his tour of inspection of the Royal Air Force stations on the North-West frontiers of India, he has seen at first hand the conditions obtaining along what must some day be one of the world's leading air routes. The importance of this is not easily exaggerated. When Sir Samuel meets his colleagues of the Cabinet he will do so with a wider experience, a more intimate familiarity with the problems, a greater stock of first-hand knowledge of the difficulties (for in spite of the entirely successful nature of Sir Samuel's flight, there are difficulties) than could have been gained in any other way. Add to this the fact that the Air Minister has come into personal contact with a number of highly-placed officials upon whose goodwill and understanding the future success of the air route to the East will largely depend, with officers responsible for the execution of R.A.F. policy in the East, and it will be realised that the magnitude of the results of the event cannot readily be assessed. That the tour will have an extremely important bearing upon the future life and welfare of British aviation in general can be accepted.

An Ambitious Project.

A man who can cheerfully set out on a flight of something like 30,000 miles including two such minor items as one crossing of the South Atlantic and one of the North Atlantic, and with an obviously sincere belief in the possibility of getting through, is worthy of every respect. If in addition he is a man who has already proved himself able to make flights over vast distances in unknown localities, and very adverse weather conditions, he is entitled to a large measure of confidence in his success. Such a man is the famous Italian aviator the Marquis de Pinedo, who has recently left Italy on his way to South America, North America, and back to Italy. It is true that the gallant Marquis will not be the first to cross either the South Atlantic or the North Atlantic, but if he succeeds he will be the first to have crossed both and flying the same machine. Details of Pinedo's great flight will be found elsewhere in this issue of FLIGHT.

It will be seen that the project is not lacking in ambition. Whether or not it succeeds remains to be seen. If it does it will mark one more milestone in the recent phenomenal progress of Italian aviation, and if it fails it will, we feel sure, be because it was not humanly possible to command success. British

aviation wishes the Marquis de Pinedo every good fortune. "*Avanti Savoia*."

Light 'Planes defined.

Some time ago we announced that the *Fédération Aéronautique Internationale* was contemplating the establishment of special records for light aeroplanes, and that it had been suggested to divide light 'planes, for record purposes, into two classes: Class I for machines with an empty weight of up to 200 kg. (220 lb.); Class II for machines of 200 kg. to 400 kg. empty weight. The Royal Aero Club of Great Britain suggested reducing the upper limit of Class II to 350 kg. (770 lb.). At the meeting of the F.A.I. held in Paris on January 25 the subject was again raised, and it would appear that a compromise was made, as it was definitely decided to divide light aeroplanes, for record purposes, into three classes, as recorded in the Official Notices of the Royal Aero Club in this week's issue of FLIGHT. Class I, according to the new and final classification, is for machines up to 200 kg. empty weight. Class II for machines over 200 kg. and up to 350 kg. empty weight. And Class III for machines up to 400 kg. (880 lb.) empty weight. It is, however, specified that for records to be recognised in the case of machines weighing more than 350 kg. but not more than 400 kg., i.e., in Class III, a passenger (or, presumably, the equivalent weight) must be carried.

Apparently this means that records will be recognised in classes I and II for pilot only. The Royal Aero Club has not yet made any announcement concerning the kind of records which will be recognised, but we presume that these will be: speed, duration, distance in closed circuit, distance in straight line, and altitude.

As far as we personally are concerned, we are very glad that the third class was included in the classification. As we pointed out in our Editorial Comment some weeks ago, the limit of 350 kg. would have meant ruling out the "Moth" and the Avro "Avian," which would certainly have been a pity. As it is, these two types will be able to go for records in Class III. (Perhaps it is somewhat unfortunate that in the future these two excellent aeroplanes may be referred to as "third-class" light 'planes!)

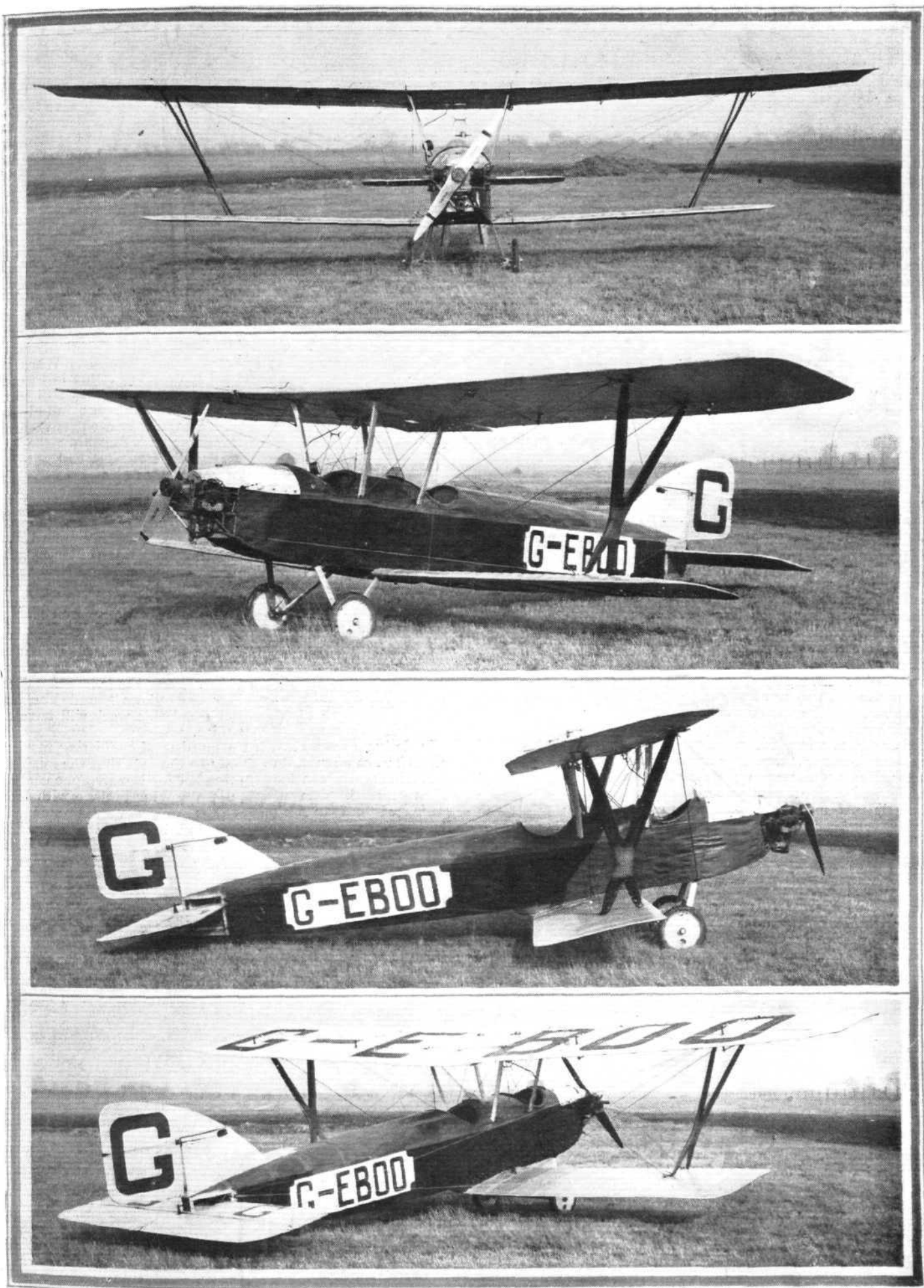
We are extremely pleased to see that weight has been chosen as a basis for defining light 'planes, and not engine weight or engine capacity. It is true that at the moment this definition applies only for record purposes, but it seems likely that the classification may in time be accepted as applying generally. Thus we have at last some sort of definition of what constitutes a light 'plane.

The new classification is to come into force on May 1 of this year, and it is to be hoped that the British light 'plane clubs will liven up their proceedings by attempting to establish world's records. The fact that all the clubs are, in the main, using the same type of machine, should lend zest to the friendly rivalry between clubs to be first to put up a recognised world's record. May 1, as it happens, is a Sunday. Let the Royal Aero Club appoint observers at each of the clubs so that no time may be lost in starting the ball rolling.

Institution of Aeronautical Engineers Second House Dinner

THE second house dinner of the Institution of Aero-

nautical Engineers will be held at 7.30 p.m. at the Engineers' Club, on March 4. The subject to be discussed will be announced later.



THE HALTON H.A.C. 1: Four general views.

[“FLIGHT” Photographs]

AIRCRAFT CONSTRUCTION UNDER DIFFICULTIES

Halton H.A.C.1 in Commission

AIRCRAFT apprentices all over the country will be glad to learn that the little machine which many of them helped to build, and for which more of them helped to pay, has at last been completed and tested in flight at the Bicester aerodrome, as recorded in *FLIGHT* recently. They will also hear with satisfaction that the H.A.C. 1, or "Mayfly," does not, as far as the somewhat brief flight tests carried out up to the present indicate, show any signs of possessing any vices likely to detract from the amusement and instruction to be derived from flying the machine at Halton and elsewhere during the coming summer. In fact, the machine has been found to be handy on the controls, to have a low landing speed and a good take-off, while the top speed seems sufficient for all purposes for which the machine is likely to be used.

In trying to form an opinion of the merits of the Halton H.A.C. 1, several points should be kept in mind. To begin with, the machine is entirely an amateur production. It was designed by officials and civilian instructors at Halton Camp. The necessary funds were raised by voluntary subscriptions among the officers, instructors and boys, contributions being mostly of the order of half-a-crown or so. The work of constructing the machine was carried out in spare time, with the exception that some of the boys were permitted to make certain parts for it as part of their manual training, i.e., instead of making the usual test specimens of various joints in wood, window frames, etc., they were allowed to make certain structural parts for the "Mayfly." And, finally, the machine was originally intended for the light plane competition held at Lympne last year for the *Daily Mail* prize. Bearing in mind the conditions under

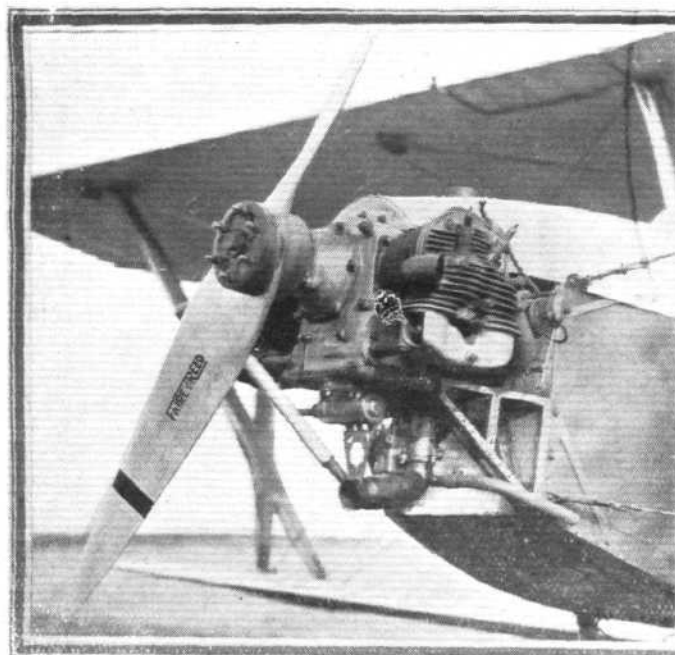
which the machine was produced, and the fact that it was found impossible to finish it in time for that competition, the determination required to carry on and finish the machine shows an extremely fine spirit among the Halton boys and instructors, the more so as by the time the machine was finished most, if not all, of the boys who took a part in building and/or financing it had completed their courses at Halton and had been sent elsewhere, with but small chance of ever seeing the result of their efforts and sacrifice in the air. We had hoped to be able to show them, this week, photographs of the "Mayfly" in flight, but, owing to circumstances this has not been possible. When we paid a visit to Halton last week, the machine was still at Bicester aerodrome, where the initial test flights were carried out, and, owing to the fact that the Air Ministry's test pilot had not yet arrived to fly it, the machine did not possess its airworthiness certificate, and was not, therefore, permitted to be flown the 20 miles or so across to Halton! However, we hope later on to be able to obtain some good flying pictures of the "Mayfly," when Halton boys now with various squadrons in different parts of the country will have, at any rate, the satisfaction of seeing the photographs of their machine. In the meantime the "ground views" and sketches published this week will have to suffice.

In designing the H.A.C. 1 a number of conflicting requirements had to be met, due chiefly to the fact that the machine was, as already mentioned, intended for the Lympne competition of 1926. The machine is a tractor biplane with high gap/chord and span/chord ratios and a very pronounced stagger. An endeavour was made to provide as good a



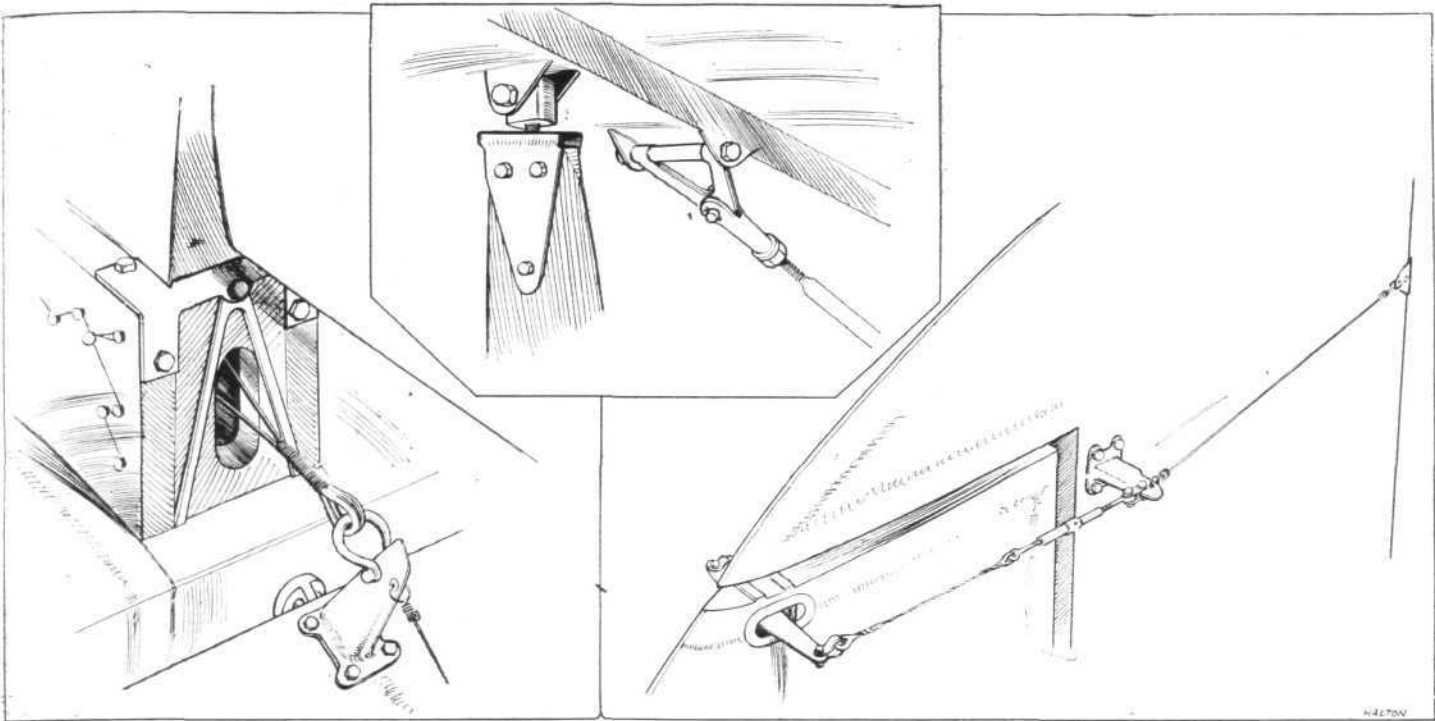
[*"FLIGHT"* Photograph

Mr. A. C. Kermode, B.A., Hon. Secretary of the Halton Aero Club standing by the "Mayfly."



THE HALTON H.A.C. 1: On the left the "Cherub" engine with its mounting, and on the right the tail. Note the undivided elevator.

[*"FLIGHT"* Photographs

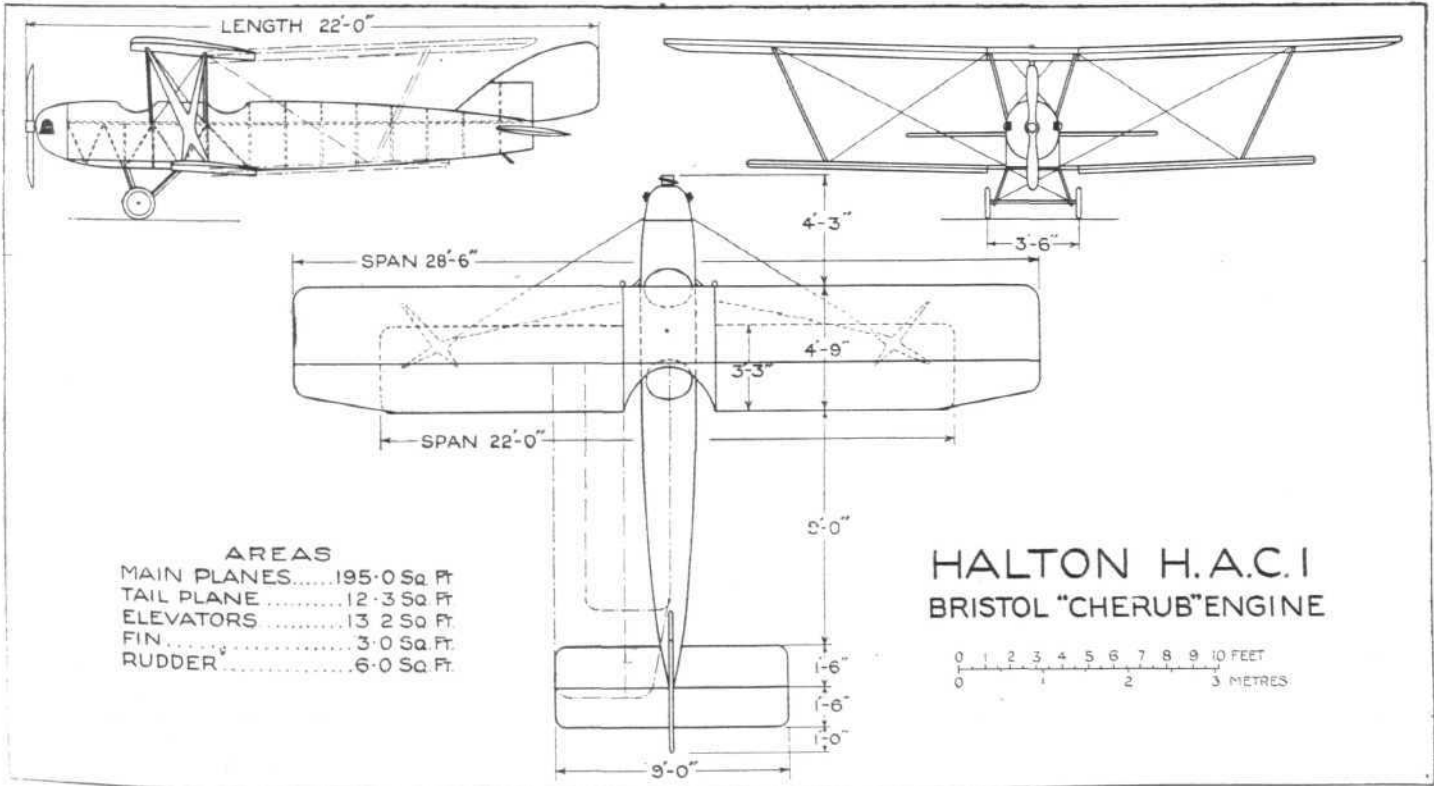


["FLIGHT" Copyright Sketches]

SOME CONSTRUCTIONAL DETAILS OF THE HALTON H.A.C.1 "MAYFLY": Above, the attachment of a lift wire and of the ends of the interplane X-strut to the top spar. On the left, the sternpost of the fuselage, showing how elevator control cables pass direct into the body and on to the control stick. On the right, the rudder cranks, those projecting through the fin being mounted on a vertical lay shaft.

view as possible from both cockpits, and the illustrations show that this object has certainly been attained, particularly as regards the front seat. Accessibility to the cockpits was another consideration, and again the front has scored, although the aft cockpit is rendered slightly difficult of access owing to the overhanging trailing edge of the top centre section. It will be noticed that the "Mayfly" is a single-bay biplane, and thus is of orthodox design. The wing struts, however, are somewhat unusual, being in the form of an unsymmetrical letter X. We do not envy the man whose task it was to draw out these struts. Owing to the difference in chord (or rather distance between spars), forward stagger, angle of incidence, and outward rake, the struts must have presented a very pretty problem in projection drawing. The wing bracing, apart from the struts, started life as a normal

type. During construction, however, and after the wings had been completed, it was discovered that an error had crept in while "stressing" the wings, and that the load factors for the drag bracing were inadequate. Rather than wait for another set of wings to be got out, it was decided to bring the existing wings up to strength by adding external drag wires to nose and tail. This will explain the presence of these wires, which may be seen in the photographs, and which are not actually to be regarded as part of the design. One point about the wings that attracts attention at once is the placing of the rear spar of the bottom wing. This is situated rather less than halfway from the leading edge along the chord. This position was chosen in order to bring the upper and lower rear spars vertically in line, since it would otherwise have been difficult to design hinges for



THE HALTON H.A.C. 1: General arrangement drawings, to scale.

folding the wings. Large wing flaps are fitted to the top wing only, and so arranged as to act as camber flaps, as well as ailerons. They are held up by rubber cords on top of the wing, and all aileron cables and pulleys have been mounted externally for the sake of simplicity, although the original intention was to place them inside the wings. The wing section used, by the way, is R.A.F. 15.

The fuselage is of the flat-sided box type, with a light skeleton of spruce covered with ply-wood. The longerons are stop-chamfered between struts to approximately triangular section. There are no metal fittings in the main fuselage structure, the struts simply butting on to the longerons as in the De Havilland "Moth." The deck of the fuselage is cambered in the ordinary way, but owing to the fact that it curves slightly in side view, some difficulty was experienced in applying the plywood panels, due to the fact that flat sheet can be bent over a cylinder but not over a barrel.

The tail of the "Mayfly" is of fairly orthodox design, except for the fact that the rudder is placed wholly above the elevator, the latter being undivided. The rudder is of large area, and provided with a large horn balance. All

control cables pass inside the fuselage, those from the elevator cranks straight into the stern, while the rudder cables run from the rudder cranks to other cranks on a vertical lay shaft placed inside the fin. From cranks on the lower end of this shaft the cables are taken to the rudder bar in the cockpits.

The cockpits are roomy, and provided with dual controls, one of the "sticks" being removable.

The Bristol "Cherub" is mounted on light sheet-steel brackets, built up to form four pyramids, one on each corner of the fuselage. The engine is very accessible, and further cowling may be added at a later date. The propeller is a Fairey-Reed of Duralumin, and was presented to the club by the Fairey Aviation Company. The petrol tanks are situated in the top centre-section.

A simple undercarriage of steel tubing with built-on fairings is fitted with rubber cord shock absorbers.

Altogether, the Halton H.A.C. 1 is a very creditable piece of work, and it is to be hoped that the machine may be able to take part in meetings and races during the coming summer, so that the boys who have helped to produce it may have at any rate that satisfaction.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

COMMITTEE MEETING

A MEETING of the Committee was held on February 9, 1927, when there were present:—Lieut.-Col. M. O'Gorman, C.B. (in the chair); Lieut.-Col. M. O. Darby; Wing-Comdr. T. O'B. Hubbard, M.C., A.F.C.; Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Mr. F. Handley Page, C.B.E.; Mr. T. O. M. Sopwith, C.B.E.; and the Secretary.

Election of Members.—The following new Members were elected:—

Flight-Lieut. W. G. Weston, M.B.
Flight-Lieut. R. J. Read.
Flight-Lieut. F. H. D. Henwood.
Flying Officer R. O. Jones.
C. C. Oxley.
L. D. Russell.
E. M. Alexander.
Flying Officer C. F. Uwins.
Robert Carr.
H. J. Hilary-Taylor.
Flying Officer H. S. Martin.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

8065. Stephen Fry, Hampshire Aeroplane Club.
8066. Mrs. Doreen Ranald, Henderson's School.
8067. The Hon. Lady Bailey, London Aeroplane Club.
8068. Roy H. Dobson, Lancashire Aero Club.
8069. Herbert J. Hardy, Lancashire Aero Club.
8070. Kenneth Twemlow, Lancashire Aero Club.
8071. Peter G. Stewart, De Havilland School.

F.A.I. Conference, Paris, January 25, 1927.—Lieut.-Col. M. O'Gorman, C.B., who attended the conference on behalf of the Royal Aero Club, presented his report:—

Schneider Cup.—Decision to hold the race in 1927 between September 1 and November 15, 1927. Future races to be held annually.

Customs Carnet.—Acceptance by the F.A.I. of the proposal of the Royal Aero Club that the Carnet should be available to aircraft used for public transport.

Light Aeroplane Records.—Acceptance of the following classification for light aeroplanes for record purposes:—

CLASS I.—Weight empty, up to 200 kgs.
CLASS II.—Weight empty, over 200 kgs. to 350 kgs.
CLASS III.—(Two-seater.) Weight empty, up to 400 kgs.
In Class III both pilot and passenger must be carried.
These three classes come into operation on May 1 next.

Nationality of Records.—At the Zurich Conference in August next, the question of the nationality of records will be considered. The Italian Aero Club has proposed that it should be that of the pilot.

A unanimous vote of thanks was passed to Lieut.-Col. M. O'Gorman for attending the conference on behalf of the Club.

Sub-Committees.—The reports from the following sub-committees were received: House Committee; Joint Standing Committee, R.Ae.C. and S.B.A.C.

Britannia Trophy.—The award of the Britannia Trophy for the year 1926 was deferred until the next meeting.

Society of Model Aeronautical Engineers.—The report of the Society's work for the year was received, and it was unanimously agreed to renew the official recognition of the Society for the year 1927.

Light Aeroplane Clubs.—The report of the Conference of Light Aeroplane Clubs held on January 14, 1927, was received. It was decided that the amended scheme of association should be issued to the clubs.

Air League Challenge Cup.—The proposal of the Light Aeroplane Clubs that the cup should be offered for an inter-club competition was considered and unanimously agreed to. The light aeroplane clubs to be consulted as to the nature of the competition.

Schneider Cup, 1927, Committee.—A special committee was appointed to take in hand all arrangements in connection with the British competitors:—*Royal Aero Club*: Lieut.-Col. M. O'Gorman. *Air Ministry*: one representative. *Aircraft Constructors*: one representative each. *Engine Constructors*: one representative each. *Secretary*: H. E. Perrin.

ROYAL AERO CLUB MONTHLY HOUSE DINNER

The monthly House Dinner will be held at the Royal Aero Club on Wednesday, February 23, 1927, at 7.15 p.m.

Lord Thomson will take the chair; and Mr. C. L. G. Colebrook, the Aeronautical Correspondent of the *Times*, will open a discussion on "The Public, Aviation, and the Press." The number is limited to 60, and members wishing to attend are requested to notify the club as soon as possible.

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

THE FORD AERIAL "FLIVVER"

FOR some time past we have come across frequent reports and rumours regarding Henry Ford's aerial equivalent to the world-famous "Tin Lizzie." These reports have always been vague and various, serious and humorous—one having it that all the nuts on the new Ford Flyabout would be fitted with automatic parachutes—but up to now technical details have been lacking. This week, however, through the courtesy of our American contemporary, *Aviation*, we are able to publish the actual facts regarding the production of the Ford "Flivver," together with a brief description of the machine itself.

We understand that Mr. Ford does not, at the present moment, intend entering upon the mass production of aerial "Flivvers," but merely wishes to investigate the possibilities of such a venture and prove to his own satisfaction whether or not this type of aeroplane has any future. With this object in view, therefore, Mr. Ford had a small light 'plane designed and constructed in order that practical tests might be carried out to assist in his investigations. It was the first public appearance of this machine—at, we think, Dearborn air port, during the Ford Commercial Aeroplane Reliability Tour last August—that gave rise to the reports referred to above.

The Ford aerial "Flivver" was designed for Mr. Ford by Otto Koppen, of the Aeroplane Division of the Ford

divided at the fuselage, there being no ailerons of the usual type.

The mechanism of these flaps is such as to enable either their differential operation as ailerons for lateral control, or their linear operation as a means of altering the effective section—or camber—and, therefore, the lift, of the wing. Another interesting feature of this arrangement is the manner in which their operation is simplified from the standpoint of the pilot. These flaps are worked by the control column in the same sense as the column operates the elevator. Thus, pulling the stick back not only raises the elevators but also depresses the wing flaps, with the result that the change in the centre of pressure caused by a movement of the flaps is compensated for by a change in the longitudinal balance of the machine. As a result, no special effort, is necessary on the part of the pilot to correct for any use made of the flap device.

The under-carriage is of the non-axle type, having an exceptionally wide track—7 ft. 6 in. Each wheel is supported at the apex of a tripod of three steel-tube struts, one sloping inwards to the fuselage and the other two extending up to the main plane. The vertical strut of each wheel incorporates a compression rubber disc shock absorber, the main feature of which is that the rubber discs are moulded into brass rings



THE FORD AERIAL "FLIVVER." : Henry Ford's experimental version of the popular "Flyabout." It is fitted with a 35 h.p. Anzani.

Motor Co.—who was formerly of the Aeronautical Department of the Massachusetts Institute of Technology. It is a single-seater low wing cantilever monoplane, fitted with 35 h.p. 3-cylinder radial air-cooled Anzani engine. As will be seen from the accompanying illustration, it is of exceptionally clean appearance, there being no bracing wires or struts—excepting the undercarriage struts and the simple tail unit bracing—to offer unnecessary head resistance.

The fuselage is a normal structure of wood longerons braced with steel wire and fabric covered, with a comfortable cockpit for the pilot in which the seat is so arranged that he sits high up and has an excellent range of vision. In machines of this class this is an important feature, since as long-distance flying is not called for so much as short pleasure hops, the clear wide view enables the pilot to make the most use of the easy, slow landing qualities of this machine.

The forward end of the fuselage tapers off smoothly to cowl the Anzani engine, which drives a 5 ft. wooden airscrew specially designed for the machine by Mr. Koppen.

As previously stated, the wing is of the cantilever type, of moderately thick section—Gottingen 387—and has a span of 22 ft. It is of orthodox wooden spar and rib construction, fabric covered, and has simple elliptical wing tips. The most interesting feature of the wing, which is attached to the lower longerons of the fuselage, is the flap device—somewhat on the lines of the system employed on the British Fairey machines. Flaps extend along the entire trailing edge,

previous to assembling in order to reduce to a very large extent the wear on the internal surface of each ring when in use.

In place of the usual tail skid, a small wheel is fitted, to which a tire friction brake is attached, enabling the pilot to obtain, when desired, the same effect as that obtained with the ordinary skid.

An endeavour has been made in the Ford "Flivver" to silence the engine by leading the three exhausts from the cylinders into an inverted U-shaped manifold, the outlets of which extend below the leading edge of the wing. At each of the two outlets of this manifold a standard Ford car exhaust silencer is fitted, and the result, while not by any means being the absolute silencing of the engine, is a fifty per cent. reduction of the exhaust noises. This silencer is not shown in our illustration.

The Ford Air Transport Service pilot, Harry Brooks, who has flown the Ford "Flivver" reports the machine to be excellent on the controls, very easy to fly, and the pilot's position gives him excellent vision. When flying this machine, Brooks usually takes off straight out of the door of the building of the Ford Dearborn plant, where it is housed, and leaves the ground after a very short run. The "Flivver" has a remarkably good climb and low landing speed, whilst on the ground it can be manoeuvred with the greatest possible ease.

We understand the Ford Company are developing a special engine for this machine—a 2-cylinder horizontally opposed type, with aluminium steel-lined cylinders.

LIGHT 'PLANE CLUB DOINGS

London Aeroplane Club

Flying Time.—With four blank days owing to fog, flying was restricted and the total time for the week was 20 hrs. 5 mins.

Pilot Instructors.—Capt. F. G. M. Sparks, R. W. Reeve, A. S. White. Dual Instruction.—H. O. Guggenheim, Mrs. Christie, Miss O'Brien, A. J. Mulder, H. M. Samuelson, A. J. Richardson, C. R. Campkin, E. R. Wilson, M. P. Susman, L. W. Gibbins, D. S. Hewitt, H. R. Presland, R. P. Cooper, Lady Bailey, E. A. Lingard, L. Wickett, J. G. Crammond, F. C. Eford, G. N. Howe, Mrs. Cook, Dr. Cook, J. J. Hofer.

Solo Flying.—Capt. H. Spooner, C. E. Murrell, Miss O'Brien, Lady Bailey. "Bristol" Brownie.—The Bristol Aeroplane Company handed over the "Bristol" Brownie to the Club on Thursday last, Mr. C. F. Uwins, their chief pilot, flying it up from Bristol.

The Hampshire Aeroplane Club

REPORT for week ending February 11.—Total flying time, 16 hrs. 25 mins. Instruction flying, 8 hrs. 45 mins.; solo flying, 7 hrs. 10 mins.; passenger flying, 25 mins.; test flights, 5 mins.

The following members had instruction:—Lieut. A. R. Cadell, 2 hrs.; Mrs. F. T. Courtney, 1 hr. 40 mins.; Mr. E. P. Snowden, 1 hr. 35 mins.; Capt. H. T. Molyneux, M.C., 45 mins.; Mr. F. G. Molony, 30 mins.; Mrs. C. B. Fry, 25 mins.; Mr. D. L. Rumble, 15 mins.; Mr. F. C. Stokes, 15 mins.; Mr. W. G. B. McKechnie, 15 mins.; Mr. A. R. Mellor, 15 mins.; Mr. R. S. Dickson, 15 mins.; Mr. W. D. Cox, 15 mins.; and the Hon. H. R. Grosvenor, 15 mins.

The soloists were:—Senor de la Cierva, 6 hrs. 10 mins.; Mr. S. Fry, 15 mins. Mr. R. H. Cooper, 15 mins.; Mr. V. F. Nicholson, 10 mins.; Mr. A. M. Keeping, 10 mins.; Mr. D. L. Rumble, 5 mins.; and Mr. K. P. L. Bowen, 5 mins.

Mrs. Jeffery and Mr. Osman had joy-rides with Mr. O. E. Simmonds. During the week, Senor de la Cierva passed the practical tests for his R.Ae.C. certificate, exactly one month after his first flight with our instructor. He had flown ten years ago, but had never had instruction until taken in hand by Thomson.

Will members please note that in future the Club will be closed all day on Mondays to give the staff a rest after their usually strenuous week-ends?

The Lancashire Aero Club

REPORT for week ending February 12.—Total flying time for the week, 26 hrs. 25 mins., made up as follows:—

Dual with Messrs. Brown, Cantrill and Scholes:—Mr. Caldecott, 2 hrs. 5 mins.; Miss Brown, 1 hr. 55 mins.; Miss Emery, 1 hr. 10 mins.; Messrs. Meades, 1 hr.; Nelson, 55 mins.; Dickinson, 35 mins.; Forshaw, 35 mins.; Musgrave, 30 mins.; Shiers, 30 mins.; Gatterall, 25 mins.; Abdalla, 25 mins.; Hartley, 20 mins.; Goodyear, 20 mins.; Fallon, 20 mins.; Stonex, 20 mins.; Blagden, 20 mins.; Hughes, 15 mins.; Davidson, 15 mins.; Fray, 15 mins.; Ruddy, 15 mins.; Heys, 10 mins.; Crosthwaite, 10 mins.

Solo:—Messrs. Twemlow, 1 hr. 40 mins.; Michelson, 1 hr. 35 mins.; Crosthwaite, 1 hr. 15 mins.; Goodfellow, 50 mins.; Costa, 50 mins.; Lacayo, 45 mins.; Wade, 35 mins.; Gatterall, 35 mins.

Joy-rides:—With Mr. Scholes—Mrs. Fray, 15 mins.; Messrs. F. Scholes and Hill, 10 mins. each. With Mr. Cantrill—Messrs. Hardy, 25 mins.; Grimshaw, 15 mins.; With Mr. Lacayo—Mr. Benson, 25 mins.; with Mr. Goodfellow—Mr. Caldecott, 20 mins.; with Mr. Costa—Mr. Contilio, 20 mins.; with Mr. Leeming—Miss Leech, 15 mins. Tests:—2 hr. 15 mins.

On Sunday, the 6th, although only three machines were serviceable, we managed to get in 13 hrs. 50 mins. flying. Failing light and a thickish ground haze prevented us from beating the summer record, which stands at 14 hrs. 35 mins. The rest of the week, though fine, was spoiled by fog, which interfered seriously with flying. We were handicapped also by the absence of our Scotch member, which made it impossible to carry out the standard visibility test. (Perhaps Hampshire, having failed to borrow our telescope and half-crown, would like to make the best of a bad job and lend us their Scotch member instead?)

The improvement of the aerodrome by the demolition of the big wood in the centre is in full swing, and our chairman has taken to lending a hand by removing the top from any tree which impinges upon his line of approach. One has heard of spraying fruit trees by air, but one has doubts as to whether pruning them by air is a practical proposition.

Members are notified that Mr. Alan Goodfellow (tel: Gatley 99) has been appointed an additional observer and examiner for the R.Ae.C. certificate.

A Light 'Plane Club for Norwich?

ADMIRABLE efforts are being made by the Lord Mayor and other influential people in Norwich to found a new Light Aeroplane Club. Its mere formation is being accomplished with a splendid flourish. A meeting is being held at Norwich on the 25th inst., when one of the Directors of Civil Aviation is going to give an address, and there will be an aerial demonstration over the city which may actually commence on the day before. Nearly all the other Light Aeroplane Clubs are flying down to lend their active aerial support for the encouragement of the citizens. De Havilland's are sending a "Moth," Boulton and Paul hope to add to the attraction by sending one or two of their powerful machines, whilst well-known people who have promised to attend by air are the Master of Sempill, Viscount Ossulston, and the youngest lady pilot, Mrs. Ranald. Joy-rides will be given, and as far as possible Norwich will have two days of aerial sport. A more successful plan of inaugurating an aeroplane club could hardly be surpassed. The local members of Parliament have promised their interest, and already offers to act as the club's instructors have been received from local ex-R.A.F. pilots. Boulton and Paul have kindly offered their hangars for the pageant.

A Johannesburg Light 'Plane Club

A LIGHT 'Plane Club has been formed in Johannesburg, and it is looking to this country, as the home of the movement, for our support to help them to success. It has the direct interest of many influential people, its patron being the Earl of Athlone. Its object is to further the cause of civil aviation

The Midland Aero Club, Ltd.

REPORT for week ending February 12:—The total flying time was 10 hrs. 36 mins.

The following members were given dual instruction by Capt. McDonough: H. D. Coleman, C. Fellowes, S. H. Smith, G. V. Perry, E. R. King, J. C. Rowland, H. Beamish, A. Ellison. Advanced dual:—H. J. Willis.

The following "A" pilots made solo flights:—H. J. Willis, W. Swann, G. V. Perry, E. J. Brighton, E. R. King.

Passengers with Mr. Brighton:—L. V. Mann, E. P. Lane, R. L. Jackson, H. A. Boak, Miss Boyes.

Mr. A. R. H. Miller, a member of the club, has just been gazetted a Pilot Officer in No. 603 City of Edinburgh Squadron. Mr. C. L. Knox, another member who received his flying instruction in the club, is a Pilot Officer in No. 605 County of Warwick Squadron.

The Newcastle-upon-Tyne Aero Club

Fog on each day of the week has seriously interfered with flying. Sunday was particularly bad, but flying took place on four days of the week.

Total time: 13 hrs. 50 mins.—12.20 on L.Y. and 1.30 on L.X. The latter was off service until Friday, for attention to engine.

The following members flew under instruction with Mr. Parkinson:—Mr. M. G. Thirlwell, Mr. Miesegae, Mr. J. D. Irving had advanced dual.

Solo:—Miss C. R. Leathart, Mr. J. Stewart, Mr. H. D. Mathews, and A. Ball.

"A" Pilots: Mr. H. Ellis, Mr. J. D. Irving with Miss Studholme, Miss Duffy, Miss Stewart and Mrs. Parkinson, Mr. R. N. Thompson with Mr. Watson and Mr. Jackson, Mr. C. Thompson with Mrs. Heslop and Mr. J. M. Campbell, Dr. H. L. B. Dixon with the Misses Stewart and Mr. Percy.

The following had joy rides with Mr. Parkinson:—Mrs. Parkinson, the Misses Wardale, Mr. Hayton, Mr. Sandford, and Mr. White.

Lord Ossulston flew his own machine, with the Misses Rowe as passengers. Mr. Parkinson will attend a course at the Central Flying School for about two weeks.

Lord Ossulston called with his new "Moth" at Cramlington on Tuesday on his way north. As is usually the case, when he calls at the aerodrome he stayed in Newcastle overnight, proceeding to Chillingham next morning. Reappearing out of the fog on Sunday morning and again staying overnight at Newcastle.

A very happy evening of dance and song was spent by members at the club-house on Sunday evening. Mrs. J. D. Irving and Lord Ossulston very kindly provided the piano music (dual and solo), assisted by a professional banjoist and (?) by Dr. Dixon and Mr. A. Bell with jip fiddles. Certain members had dual with Mr. and Mrs. Irving in the Charleston.

Between 45 and 55 members and friends stay at tea on Sundays, and appear to enjoy themselves.

As stunting in machines is practically eliminated, certain members with a thirst for sensationalism have made efforts to emulate a famous "stunt" pilot in another direction. They have been searching the district for a field which will have a gateway large enough for them to push the Avro through when they "forced land" for petrol. Their difficulties appear to be mainly that they are unable to find the field with (1) a sufficiently large gate; (2) a petrol filling station sufficiently near, and (3) guarantee that the necessary photographers will be on the spot at the time.

The Yorkshire Aeroplane Club

REPORT for week ending February 10:—Total flying time, 7 hrs. 30 mins., made up as follows:—

Solo: 3 hrs. 35 mins.; dual instruction, 3 hrs. 25 mins.; joy rides, 25 mins. Test, 5 mins.

Messrs. Mann, Dawson, Norway and Wood flew solo and Messrs. Wayman, Wilson and Batcock, dual.

On Saturday, February 5, Mr. Wayman (our new chairman) came over and flew for 5 minutes' dual.

On February 6, Mr. Mann performed his first loop (for a wager) and last Tuesday (8th) Lord Ossulston, of the Newcastle Club, landed in his "Moth," having flown from Spittlegate Aerodrome. After a short stop at Sherburn he continued his journey on to Cramlington, taking with him Mr. Addyman whom he proposed to drop at Catterick Bridge.

One greatly admires Mr. Leeming's method of re-fuelling and hopes the Lancashire foresight will induce garage proprietors to fit extra long pipe lines to their pumps and so save road work.

in South Africa and provide a means for learning to fly for people of moderate wealth. As it is the first to be formed in that country on the lines of our own their difficulties will be understood.

Ala d'Italia with Slots?

MR. F. HANDLEY PAGE and M. Richard are at present in Italy for the purpose, it is rumoured, of disposing of the Italian rights for the patented Handley Page-Lachmann slotted wing. Can it be that the Macchi racers for this year's Schneider Trophy race will be fitted with even smaller wings and with slots? It is, perhaps, on racing machines that the slotted wing is likely to give the greatest advantage, so who knows?

R.A.F. Boxing

THE results of the semi-finals in the R.A.F. Team Boxing Championships are as follows:—Open Division: Manston beat Netheravon by one point; Halton scratched to the Home Aircraft Depot. The final between Manston and the latter will take place on March 28 at Henlow. Junior Division: Duxford won all contests with No. 2 Flying Training School, Digby; Kenley beat the School of Ballooning, Larkhill, by one point. Final will be decided at Kenley. The R.A.F. Individual Boxing Championships will be held at Halton Camp, March 2 and 3. Cups will be the prizes presented on this occasion by Air-Marshals and Air-Commodores of the R.A.F. Civil Service v. R.A.F. will be at the Stadium Club on February 18, and a match between the Household Brigade Boxing Club and R.A.F. on March 17 at Henlow.

PINEDO'S BIG FLIGHT

Two Atlantic Crossings in 25,000-Mile Attempt

As briefly announced in last week's issue of *FLIGHT*, the famous Italian pilot, Marchese de Pinedo, has started off on another of his long-distance flights. This new venture of his is, in a way, much more ambitious than his historic flight in 1925 from Rome to Australia, Japan and back, even though the total distance covered will not, in all probability, be so great.

At the moment, full details of the programme to be followed by the Marquis are somewhat vague—especially regarding the latter portion of the flight—but the outstanding feature is undoubtedly the inclusion of a double crossing of the Atlantic during what may be described as an aerial tour to South and North America, covering a total distance of some 25,000 miles.

Through the courtesy of Gen. A. Guidoni, the Italian Air Attaché in London, we are able to publish herewith a sketch-map showing, diagrammatically, the route the Marquis proposes to follow. It should be pointed out, however, that the route shown is more or less "provisional" and subject to alteration once South America has been reached, as we understand that the Marquis has not yet decided on his later plans. He hopes, however, to visit Brazil, Argentine, Chile, Guiana, United States and Canada, whilst over "on the other side."

It will be seen from the map that the first portion of the route lies over the same one taken by Com. Franco—Canary Is., Cape Verde Is., thence across the Atlantic to Pernambuco, on to Rio de Janeiro, Montevideo, and Buenos Aires. He may then either cross the Andes to Valparaiso, or proceed right away up through the centre of South America, exploring the great rivers, to Guiana. In this case he will, on several occasions have to fly over land—and he is flying a seaplane! It is possible, however, that the coastal route from Buenos Aires to the Northern continent may be taken—although Comdr. Pinedo demonstrated during his previous big flight that he had no fears in flying over long stretches of land in a seaplane!

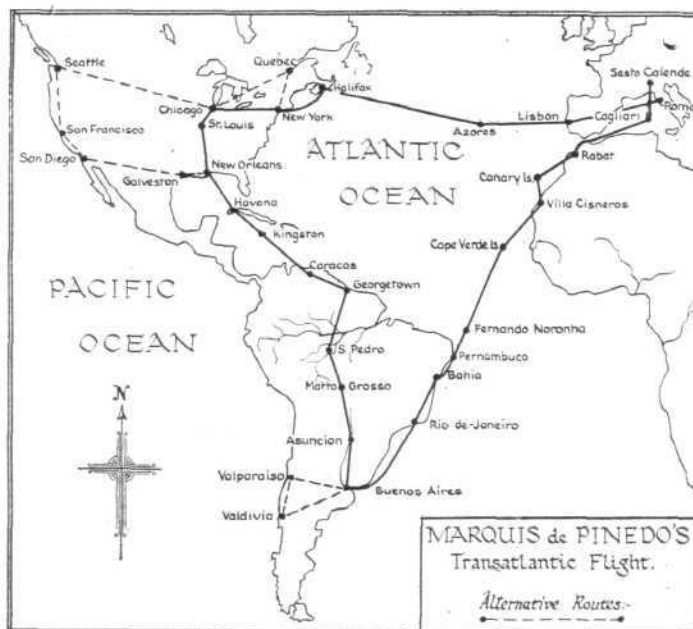
From South America the Marquis will cross over to the West Indies, Cuba, and thence to U.S.A., probably at New Orleans. His subsequent movements are unsettled, possibly some of the big Pacific Coast Cities will be visited, also Canada—Winnipeg and Quebec—but almost certainly Chicago and New York. From New York he will proceed to Halifax (or St. John's, Newfoundland), and then comes the second Atlantic crossing to Lisbon, via the Azores. Thence back home to Italy.

So much for the route, and now for other details of the flight. Marquis Pinedo will be accompanied by Capt. Del Prete as reserve pilot, and Sig. Zacchetti as mechanic. The machine, "Santa Maria," employed for this flight, is the Savoia S 55, a twin float—or rather, a twin boat—monoplane fitted with two 500 h.p. Isotta-Fraschini Asso engines. This type of machine was described in *FLIGHT* for April 9, 1925, so we need only say here that it is a thick-wing cantilever monoplane with the wings and power plant carried by two short boat-type floats, the tail surfaces being carried by outriggers from the stern of each boat. The engines are arranged

in tandem and are located high up on the centre wing-panel, between the boats. Some idea as to the general arrangement of the S. 55 may be obtained from the accompanying illustration.

The useful load carried is 7,500 lbs., including 6,000 lbs. for fuel and 600 lbs. for oil. This machine has a range of 1,900 miles, the cruising speed being 100 m.p.h. The span of the S.55 is 126 ft., overall length, 66 ft., and the wing area, 1,000 sq. ft.

Marquis Pinedo left the Savoia works at Sesto Calende on



MARCHESE DE PINEDO'S BIG FLIGHT: The above sketch map shows the route which will be followed, as far as at present planned, by the famous Italian pilot during his 25,000-mile Transatlantic flight. It will be seen that he crosses the Atlantic twice—first from Africa to Pernambuco, then on the return journey, from Halifax, or St. John's, to Lisbon via the Azores.

February 8 and flew to Cagliari, Sardinia, whence he started officially on his long journey on February 13, and successfully accomplished the first stage of 1,000 miles by flying to Kenitra, Rabat (Morocco). Proceeding the next day another 1,000 miles, to Villa Cisneros, was accomplished, and the same night Pinedo resumed his flight in the moonlight. He covered another 1,000 miles, arriving at Bolama (Port Guinea) next morning.



MARCHESE DE PINEDO'S BIG FLIGHT: The Savoia S.55 military type mono-seaplane, shown above, is being used in this new effort.



The Air Minister's Return

SIR SAMUEL HOARE and Lady Maud Hoare, who reached Paris from Cairo on February 15, were to have arrived at Croydon aerodrome by air on February 16, but owing to fog the trip had to be cancelled. It is hoped that weather conditions today will have been more favourable for the successful conclusion of their historic journey to India and back.

Another Canadian Air Survey

AN aerial survey of a prospective national park area containing 850 square miles and situated about 60 miles north of Prince Albert, Saskatchewan, is to be made in the spring, according to the information received by Hon. T. C. Davis, Minister of Municipal Affairs at Regina. The survey will be undertaken by the Dominion authorities. The proposed national park is heavily timbered and well stocked with big game. A number of lakes are included in the area. These connect with one another, and it will be possible for the tourist to travel by canoe almost anywhere in northern Saskatchewan, as well as to cross into Alberta or Manitoba without leaving the waterways. The Government has also decided to spend £180,000 on an air survey of the Hudson Straits by Service machines, assisting the Canadian Navy in investigating the ice conditions and the strength and direction of ocean currents.

America and the Schneider Cup

It is reported that the U.S. Naval Air Service has decided not to enter for this year's Schneider Cup race. The U.S. Army Air Service, however, has made no decision as yet, on the matter.

Commander Byrd to Fly Atlantic

COMMANDER R. BYRD, who made an aeroplane flight to the North Pole last April, is to attempt a non-stop flight from New York to Paris (for the Raymond Orteig Prize) in a 3-engined Fokker monoplane.

A "Stack and Leete Air Mail"

CAPT. T. N. STACK and Mr. B. S. Leete, who flew from England to Karachi in two D.H. "Moths" are flying from Karachi to Lahore and Delhi this week, and each will carry an official mail, for which the Karachi postal authorities have issued a special "cachet."

A New Australian Air Mail Route

THE Australian Government is shortly to ask for tenders for the establishment of an air mail service between Adelaide and Perth. It is willing to make landing grounds, provide aerodromes and otherwise assist the proposed service, but it does not expect to have to grant a subsidy. The air mail would reduce the delivery between these two towns by four days. Negotiations are also still in progress between the Federal and the Tasmanian Governments regarding a service between Tasmania and the mainland.

Disarmament and Civil Aviation

A COMMITTEE of experts in civil aviation, convened by the League of Nations to discuss the economic consequences which would follow a limitation of aerial armaments and affect the civil aviation industry, met in Brussels on February 7. The countries represented were Great Britain, the United States, Germany, France, Italy, Holland, Poland and Sweden. The British delegates were Col. Edwards and Group-Capt. McNeece. The President, M. de Brouckère (Belgium), welcomed the delegates in the name of the Minister for Foreign Affairs. A statement on the position of aviation in the United States was made by Mr. Cuggenheim, and it will be discussed at the next meeting. The Committee passed a resolution that it was essential to avoid hampering civil aviation when limitations were made to aerial armaments.

Khartoum-Kisumu Service

WE reported last week the departure from Khartoum of the Fairey seaplane on the first flight of the new East African Air Mail. It arrived at Kisumu on February 12 and left for Khartoum on February 14.

South African Air Lines

FURTHER to our comments in a recent issue on the report of a service between Johannesburg and Durban in the hands of Major Miller, it seems that this freight and

passenger service will be financed by the Sir Alan Cobham Aviation Co., with the guaranteed capital of £30,000. De Havilland machines capable of a load of six passengers and 200 lbs. of freight are to be used. The company hopes to obtain the Union Government's consent within the next month, and to begin the line about August or September.

Oslo-England Seaplane Service

THE Norwegian Aero Club has arranged a series of trial flights for the Polar aeroplane, Dornier N.25, between Oslo and Harwich or Felixstowe. Two alternative routes will be tried, the first via Christiansand, Jutland, Cuxhaven and Amsterdam; and the second along the Swedish coast and then to Kiel and Amsterdam. The first flight will commence about the end of this week.

Thames-Seine Air Service

THE recent spell of foggy weather over London has delayed the start from Hammersmith Bridge of the amphibian flying-boat waiting to commence the experimental flights to and from Paris, particulars of which were given in our last issue.

Aircraft in Portuguese Revolution

DURING the Portuguese Revolution, aircraft have played a decisive part. Lisbon, when in the hands of the insurgents, who had prevented all communication to and from the city, was attacked by aeroplanes which dropped three aerial torpedoes into the arsenal with devastating effect.

"Jupiter" Completes 150-Hours' Test

ONE of the Romeo-Jupiter engines built in Italy under licence by the Alpha-Romeo Company recently completed its 150 hours' test run on the bench. The average speed of the engine during the test was 1610-1,640 r.p.m., and the average power developed was 390 h.p. The average fuel consumption was 230 gr./hp./h. (0.506 lb./hp./h.) No involuntary stop was made throughout the test.

That Southampton-Cherbourg Service

REFERENCE was made recently in FLIGHT to the negotiations between Imperial Airways and the Cherbourg Chamber of Commerce for the establishment of a flying-boat service from Southampton to Cherbourg. It is now likely to develop as a combined organisation with a French concern, who will connect Cherbourg with Nantes and Bordeaux along the coast with large French flying-boats. Our machines will be Supermarine 12-seaters with Napier "Lion" engines. Passengers intending travelling by air to Southampton would have to charter special taxi-planes from Croydon.

A Beyrouth-Buenos Ayres Flight

THE Libanese pilot, Joseph Akar, has returned to Paris from Buenos Ayres; he has been flying in the Argentine and raising funds from the public for the purpose of attempting a flight from Beyrouth to Buenos Ayres. He learned to fly at Villacoublay in 1924.

Aerial Shopping Trips

ONE-DAY shopping excursions to Paris by air are to be introduced by Imperial Airways in the spring. Leaving Croydon at 7.15 a.m., passengers will have about seven hours in Paris before returning from Le Bourget at 6.30 p.m. It is suggested that French shoppers might come to London on a service under the same conditions from France.

Another Amsterdam-Batavia Flight

THE Dutch airman, Lieut. Koppen, is proposing to start on April 2 on a flight from Amsterdam to Batavia and back in 20 days.

Bolivian Air Services

THE Government of Bolivia, South America, is shortly to develop extensive air lines. It seems that four services will operate between La Paz-Trinidad-Riberalta-Cobija, and La Paz and Suerf. They will be weekly services and carry passengers and goods. Five monoplanes have run a service for a year between Cochabamba and Santa Cruz, and have been so successful in conquering territory where railways have never penetrated that the Government have been prompted to extend the system. Similar areas will now be served by these new lines, which had hitherto been retarded owing to lack of transport facilities.

THE "EXPERIMENTAL LIGHT 'PLANE CLUB"

WE have received from Mr. Granger, of Nottingham, the following account of how a few enthusiasts have designed and built gliders and light aeroplanes, and the difficulties which they have encountered and, in part at any rate, overcome:—

"I am writing to tell you of the existence of a new flying club, which may interest you because its objects go deeper than those of the clubs now in existence. Before describing it I will describe as briefly as possible its origin.

"My brother and I have always been keen on flying, but have not had the necessary funds to proceed in the orthodox manner. In 1921 I endeavoured to build a glider, but failed through inexperience (we are still using up parts of it, when we need members of vast strength regardless of weight). In 1924 my brother (J. Granger) and I set about another glider, and with the aid of a few friends built a monoplane of 160 sq. ft., using old Avro wings and making the rest ourselves. We flew this machine once only, not because it was no use but because we found it impossible to get people out on to a remote hillside at short notice (and early hours) to help us to handle it. My brother was the lucky man, as he was the lightest of the party, and on this occasion spent some seconds in the air in control (to a certain extent) of a flying machine. Greatly encouraged, and winners of sundry small bets from scoffers, we set about the building of a glider so light that we two could handle it alone. Before going any further I will say that neither he nor I have ever touched the joystick of an aeroplane, though we have flown joyfully as passengers; our employment is not remotely connected with engineering in any form, and we have no friends in the aircraft world from whom to seek advice. I set about the designs of the new glider on Christmas Day, 1924. It is a biplane of 160 sq. ft. In designing it I was guided almost entirely by the study of drawings and photographs of the single-seated light 'planes published in flying papers, having no other source of information except from inquiries on various scrap wings, etc., we had acquired. Working hard in our spare time, almost entirely at week-ends, we completed this machine as a glider, except for covering, by Christmas, 1925. The whole machine was cut out from the plank except for a few parts on our small circular saw and all fittings cut out of the sheet.

"At this time we met an ex-R.A.F. pilot who seemed greatly impressed with the work. The machine stood up well to tests of strength, and he proposed the installation of an engine. Owing to our experience of the difficulties of handling and housing a glider we agreed. The pilot, Mr. C. Newham, immediately set about the making of a propeller and experiments with a two-stroke engine. The glider's fuselage being unsuitable, we scrapped it and set about a new one. A 400 c.c. A.B.C. engine was fitted and five propellers were made by Newham and tried. The machine was completed in July last year, after 18 months' work. We have named it the 'Linnet.' Without the wheels and axle weighs 207 lbs. The lightest aero wheels we could get at a price within our funds weighed 35 lbs., which was unfortunate, but could not be avoided. We had made wooden ones, but were anxious to have the shock-absorbing properties of pneumatic tyres and so have not used these. We built the machine to teach ourselves to fly, but we decided not to handle it ourselves till it had made at least one decent flight in order to confute the scoffers many and various, so our pilot took it over.

"The Air Ministry, for a nominal fee, allowed us the use of Hucknall Aerodrome, some 10 miles from our place, and between the end of July and the middle of October we sallied out hopefully nearly every Sunday morning before dawn. Unfortunately we were underpowered. When I designed the machine I had very little knowledge of wing sections, and the one employed is not efficient at low speed. Anyhow, the machine was taxied hundreds of miles round the 'drome; we have towed it across behind a car and had successful glides, and have achieved a short flight under power—about 100 yards 20 or 30 ft. up—without a single structural failure beyond a bent tail skid caused by my slamming the tail down on the ground once when taxiing and nearly standing the 'bus on its head.

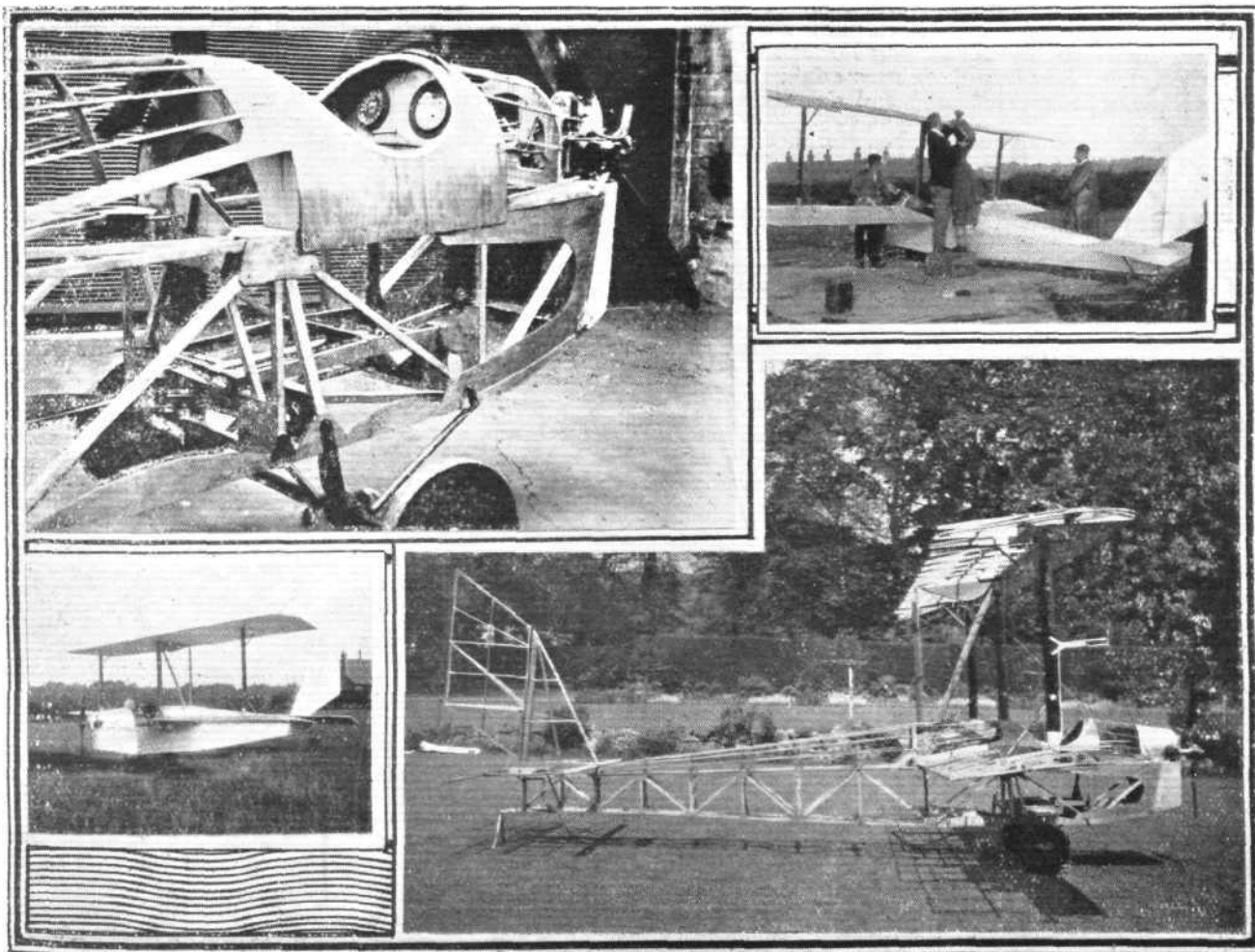
"During the summer we were joined by a fourth—Mr. B. Howard—and have now formed ourselves into a club. He is at present endeavouring to obtain another engine of greater power. We found that the A.B.C. when developing 6 h.p. would not quite, but very nearly, maintain the machine in the air, and we are convinced that we should fly strongly with 10 h.p. If we could obtain some light wheels we could save the difference in weight. Unfortunately funds are somewhat nebulous, and second-hand motor-cycle engines are our only possible source of power.

"In the meantime, while the engine is being sought for, the rest of the club is not idle. The old monoplane glider has been fitted with a 7-9 h.p. engine and turned into a two-seater taxiing machine for practice purposes, in order to give the biplane a better chance when we start to fly it. Early in the autumn we decided to build a new machine, and the choice lay between an 'Autogyro' and Capt. Hill's 'Pterodactyl.' We built a 6-ft. model of the Autogyro and tested it with the draught from a propeller mounted with its engine on a bench. It rotated more or less satisfactorily, but all the gas lights were blown out and everything in the room either fell down or stuck to the ceiling, and so this work was adjourned to the open air. We found that we should have to make prolonged experiments before starting on a full-scale machine, and so turned to the Pterodactyl. I have designed a modified machine on these lines, and one wing is already complete. We hope to be able to fly it with the A.B.C., but shall try it as a glider towed behind a car first. If the A.B.C. is not powerful enough, the new 'bus will have to share an engine with the 'Linnet' for the time.

"Now we have formed ourselves into a club under the title of the 'Experimental Light 'Plane Club,' and our object is this—to build light aeroplanes and experiment with engines with a view to developing a machine that can be built cheaply and flown safely. The sporting side of flying, except for the wealthy man, is completely ignored in this country. In Germany they have summer camps in the Rhön valley where young men go to fly gliders from the crudest to the most perfect, and we should like to see a similar movement here.

"Secondly, we want to fly light aeroplanes and to join with us those who have the enthusiasm to work on them and maintain them. We have friends who support this idea, among them a "B" licence pilot, who has a ground engineer's certificate, and has sufficient confidence in our machine to fly it when ready. If we can raise the funds we hope to be able to acquire one of the existing light 'planes for this branch of the club.

"Our membership until we can get properly organised will be very limited. On the constructional side we need one or two more who are able and willing to work on the machines. We are also open to a few non-flying members who will help to handle the machines on the ground."



AN AMATEUR-BUILT LIGHT 'PLANE: The "Linnet" has been designed and built by members of the "Experimental Light 'Plane Club," of Nottingham.

PERSONALS

To be Married

The engagement is announced between Flying Officer HENRY, A. ANSON, R.A.F., second son of the Hon. Francis and Mrs. Anson, of 37, Prince's Gardens, S.W., and HILDA SUZANNE, only daughter of Mr. and Mrs. S. C. ALLEN, of 39, Circus Road, St. John's Wood, N.W.

The engagement is announced of FLIGHT-LIEUT. JOHN WAKELING BAKER, M.C., D.F.C., R.A.F., elder son of the Rev. S. V. Baker, Rector of St. Peter's, Holborn, and Mrs. Baker, of 36, Highbury Hill, N.5, and KATHERINE HILARY MARGARET, only daughter of Lieut.-Col. and Mrs. H. BONHAM-CARTER, of Westerham, Kent.

A marriage has been arranged, and will take place at Our Lady of Victories, Kensington, at 2.15, on February 28, between Flight-Lieut. JOHN LAWRENCE KIRBY, R.A.F., elder son of Mr. and Mrs. Wilson Kirby, of Holme House, Bishop's Thorpe Road, York, and AGNES MAY, youngest daughter of the late Mr. and Mrs. Edward CHISHOLM, and step-daughter of Mrs. Edward Chisholm, of Morar, Nairn, N.B.

The engagement is announced between SYDNEY BARNETT MACKENZIE POTTER, late London Regt. and R.A.F., only son of Mr. and Mrs. Potter, of Cranbrook Park, Essex, and Miss URSULA DYKES SPICER, youngest daughter of the Right Hon. Sir Albert Spicer, Bt., and Lady Spicer.

An engagement is announced between FLIGHT-LIEUT. ARCHIBALD JAMES RANKIN, A.F.C., R.A.F., son of the late Mr. A. J. Rankin and Mrs. Rankin, of Montreal, Canada, and DOROTHEA ELIZABETH (BETTY), daughter of Lt.-Col. and Mrs. C. R. S. WOODS, of Alverstoke, Hants.

Death

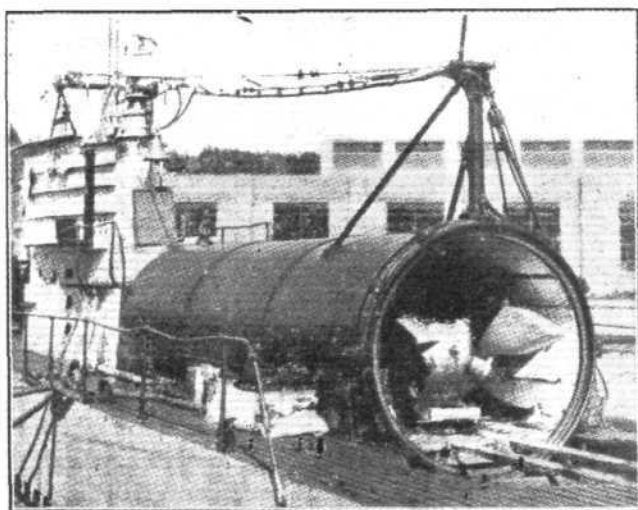
FLIGHT-LIEUT. ERNEST VINCENT LONGINOTTO, A.F.C., R.A.F., who died on December 31, 1926, at Singapore, on board the P. & O. ss. *Khiva*, of pneumonia contracted during the homeward voyage from Japan, was the second son of Mr. and Mrs. A. D. Longinotto, Croydon. The interment took place, with full military honours, at Bidadari Cemetery, Singapore.

Killed

Pilot Officer SIDNEY ARTHUR VERNON EVANS, R.A.F., who was recently killed while flying near Rottingdean, was born at Weybridge on June 17, 1904. He was the only son of Dr. and Mrs. Arthur Vernon Evans, and grandson of S. T. G. Evans, R.W.S., late of Keats Lane, Eton College. He was gazetted to the 56th Squadron, R.A.F., Biggin Hill, on December 15, 1925. Last October he married Phyllis P. Peachy, daughter of Mr. A. Peachy, Wroxham, Suffolk.

AN AMERICAN SUBMARINE SEAPLANE-CARRIER

In the development of Naval aeronautics the problem of producing aircraft capable of storage in very confined spaces, to enable them to be carried for effective purposes to sea, has been widely considered by the leading Powers. In the case of aircraft carriers they have been successful; but the adaptability of aircraft for attachment and operation with



AN AMERICAN SUBMARINE SEAPLANE CARRIER : This tubular hangar, containing a small seaplane scout (the S.1) neatly stowed away, is carried on the deck of a submarine, and it does not take very long to open the "tube" door, remove and erect the seaplane ready for flight.

submarines has presented many difficulties. In FLIGHT, June 14, 1923, we described in detail a German Seaplane, the Caspar U.1, which was specially designed, in spite of the restrictions enforced on Germany by the Allies, for submarine work.

Recently the U.S. Bureau of Aeronautics pursuing their research into the question, produced a very promising scheme. A tube, into which a scout seaplane is neatly stowed away in

parts, is lashed to the submarine—this tubular hangar in no way hindering the submarine in its movements at sea or diving. The scout, it is claimed, can be assembled, complete with floats, in five minutes, so that a reconnaissance flight can be carried out at a moment's notice. It is equipped with wireless, and can thus keep in touch with the submarine.

If this scheme becomes practicable it will add considerably to the effectiveness of submarines both offensively and defensively. With their speed these scouts would sweep the scene of operations to report the presence of the enemy and guide the direction, observing meanwhile for the approach of aerial foes. Incidentally a much desired zest will be added to the monotony of sea patrol for flying-boats and seaplanes. The enemy may be more elusive than ever but it is quite possible that the submarine can put up aerial resistance. There may be decoy tactics to be aware of. From safe altitudes a scout may watch a seaplane sweeping after a submarine that is intentionally tearing along the surface in sight, and with all attention thus focussed the scout may descend unseen and attack the other seaplane. The S-1, which the Americans produced for this submarine work is a small single-seater tractor-fuselage biplane, with twin-floats, having a wing span of about 18 ft. It is largely of metal construction, the fuselage being built of welded steel tubing and the wings and tail unit of channel-section duralumin sheet. The tubular spars and ribs are one-piece stampings of the same material, and the covering for fuselage and wings is fabric. The floats are also of duralumin. There is single-bay wing bracing, by a set of N struts at each side. Quick assembly and dismantling have been essentially embodied in its design and when stowed away in its tube, as seen in the accompanying illustration, it occupies a remarkably small space.

Fitted with a 60 h.p. Wright 3-cylinder radial engine, the S-1 has a speed range of 50-100 m.p.h. and a radius of action of 200 miles—although 500 miles has been claimed for it in some reports.

It may be of interest to note in conclusion that France is carrying out experiments on exactly similar lines as above. The Besson company have just produced a small 2-seater twin-float mono-seaplane, fitted with a Salmson 120-h.p. engine, which can be packed away within its tubular hangar carried on the submarine's deck. This Besson seaplane was recently flown from the Melun works to Suresnes, prior to being sent to Brest where it is to be put into service with a submarine flotilla.

THE ROYAL AIR FORCE

London Gazette, February 8, 1927.

General Duties Branch

The following Pilot Officers are promoted to rank of Flying Officer:—R. L. Burnett; Sept. 17, 1926. F. H. Hannaford; Dec. 31, 1926. F. S. Hodder; Jan. 18. Flight-Lieut. F. Beaumont is placed on half-pay, scale B, from Jan. 20 to 23 inclusive. P. D. Oliver, Lieut. (E.) R.N., Flying Officer R.A.F., relinquishes his temp. commn. on return to Naval duty; Jan. 22.

Stores Branch

Pilot Officer P. P. S. Rickard is promoted to rank of Flying Officer; Feb. 10.

Medical Branch

Flying Officer G. J. Griffiths is promoted to rank of Flight-Lieut.; Feb. 11.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commanders: D. Harries, A.F.C., to R.A.F. Depot, Uxbridge, Supernumerary, pending posting on transfer to Home Estabt.; 20.1.27. F. K. Haskins, D.S.C., to No. 4 Flying Training Sch., Egypt, pending taking over command; 3.2.27. D. S. K. Crosbie, O.B.E., to Superintendent of R.A.F. Reserve, Northolt, for duty as Superintendent; 3.2.27.

Squadron Leader: H. H. MacL. Fraser, to No. 2 Flying Training Sch., Digby, on transfer to Home Estabt.; 10.1.27.

Flight-Lieuts.: G. H. Cook, M.C., to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 20.1.27. W. Underhill, D.S.C., C. S. Richardson, M.B.E., G. H. Martingell, A.F.C., M. C. Dick, M.C., and J. L. Kirby, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 2.1.27. R. H. Hammer, M.C., to R.A.F. Station, Tangmere, on transfer to Home Estabt.; 2.1.27. P. R. T. J. M. I. C. Chamberlayne, A.F.C., S. B. Harris, D.F.C., A.F.C., and H. M. Moody, M.C., to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 10.1.27. J. C. Andrews, M.B.E., to Inspector of Recruiting, on transfer to Home Estabt.; 20.1.27. J. McBain, D.F.C., to No. 2 Sqdn., Manston; 4.2.27. H. H. Down, A.F.C., to R.A.F. Training Base, Leuchars, instead of to R.A.F. Base, Calshot, as previously notified; 28.1.27. L. B. Duggan, to No. 23 Group H.Q., Grantham; 29.1.27. F. W. Walker, D.S.C., A.F.C., to No. 10 Group H.Q., Lee-on-Solent; 1.1.27. R. Joze-Slade, D.S.C. to R.A.F. Station, Duxford; 1.2.27. G. E. Wilson, to R.A.F.M.T. Depot, Shrewsbury; 13.1.27. W. E. Somervell, A.F.C., to No. 12 Sqdn., Andover; 24.2.27.

Flying Officers: C. Dollery, M.B.E., to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 10.1.27. T. O. Oakes, L. N. C. Clarke, D.S.C., L. H. Cooper and J. C. Jeffrey, M.C., to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 2.1.27. J. E. Buckland, to Record Office, Ruislip, on transfer to Home Estabt.; 2.1.27. G. A. F. Bucknall, to R.A.F. Station, Tangmere, on transfer to Home Estabt.; 2.1.27. G. H. Stainforth, to R. A. F. Depot, Uxbridge, on transfer to Home Estabt.; 20.1.27. B. F. H. Harding, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 2.1.27. W. G. Pudney, to No. 22 Sqdn., Martlesham Heath; 14.2.27. C. McC. Vincent, D.F.C., to Sch. of Photography, S. Farnborough; 14.2.27. C. Walter, to No. 19 Sqdn., Duxford; 17.2.27. F. W. Field, to No. 11 Sqdn., Netheravon; 2.2.27. V. Rees, to Home Aircraft Depot, Henlow; 31.1.27. J. W. Hutchins, to H.M.S. *Argus*; 26.1.27. H. D. Wardle, to No. 29 Sqdn., Duxford; 14.2.27. F. W. L. C. Beaumont, to No. 216 Sqdn., Egypt; 7.2.27. A. E. Haes, to R.A.F. Depot, Uxbridge; 14.2.27.

Pilot Officers: J. G. Parkin, to No. 16 Sqdn., Old Sarum; 12.2.27. W. E. W. Grieve, to 503 Sqdn., Waddington; 18.2.27. F. S. Smythe, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 23.1.27. A. W. L. C. Allen, to R.A.F. Depot, Uxbridge; 14.2.27.

Memorandum

The permission granted to Sec. Lieut. F. N. Pickford to retain rank is withdrawn on his enlistment in the Army; Jan. 18.

Reserve of Air Force Officers

Pilot Officer A. Prescott is promoted to rank of Flying Officer; Dec. 30, 1926. Pilot Officer on probation S. L. F. St. Barbe is confirmed in rank; Sept. 24, 1926. The following Flying Officers are transferred from Class A to Class C:—A. F. Wynne; Sept. 1, 1926. H. P. Morris; Jan. 23. B. A. Davy; Jan. 29. The following Flying Officers are transferred from Class B to Class C:—R. Hamilton; Oct. 24, 1926. A. E. Pitcher, M.M.; Feb. 5. Pilot Officer A. Barron relinquishes his commission on completion of service; Feb. 5.

Stores Branch

Squadron Leaders: W. J. B. Curtis, O.B.E., to H.Q., Egypt; 14.1.27. W. E. Aylwin, O.B.E., to H.Q., India; 25.12.26. P. M. Brambleby, to Aircraft Depot, India; 25.12.26.

Squadron-Leaders: G. A. Hilliar, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 10.1.27. W. B. Cushion, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 20.1.27.

Flight-Lieuts.: F. R. Wilkins, to No. 4 Flying Training Sch., Egypt; 14.1.27. H. Jones, to R.A.F. Depot, Egypt; 14.1.27. R. D. G. Macrostie, M.B.E., to H.Q., Egypt; 2.1.27. R. G. Gore, to R.A.F. Depot, Egypt; 2.1.27. W. C. Farley, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 14.1.27.

Flight-Lieuts.: H. S. F. T. Jerrard and C. J. Polden, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 20.1.27. W. A. O. Honey, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 2.1.27. J. V. Mason, to R.A.F. Depot, Uxbridge, on transfer to Home Estabt.; 14.1.27. H. V. Robbins, to R.A.F. Training Base, Leuchars; 8.2.27. A. G. Knight, M.B.E., to No. 23 Group H.Q., Grantham; 9.2.27. H. J. Barnham, to H.M.S. *Eagle*; 8.2.27.

Flight Lieuts.: A. J. Briddon, to H.Q., Cranwell; 7.2.27. F. Whilton, to H.Q., Coastal Area; 3.2.27. J. C. Shakeshaft, to H.Q., Coastal Area; 31.1.27.

Flying Officers: O. G. Ridley, M.C., to R.A.F. Station, Tangmere; 1.2.27. A. McC. Goddard, to R.A.F. Depot, Egypt; 14.1.27. H. B. S. Ballantyne, to No. 216 Sqdn., Egypt; 2.1.27.

Flying Officers: H. Sleight, to No. 100 Sqdn., Spittlegate; 27.1.27. J. W. Mitchell, to No. 602 (City of Glasgow) Sqdn., Renfrew; 18.1.27. F. A. Skoulding, to Air Ministry, Directorate of Equipment; 31.1.27.

Medical Branch

Group Captain: H. V. Wells, C.B.E., to H.Q., Coastal Area, for duty as Principal Medical Officer; 1.3.27.

Squadron Leader: P. H. Young, M.B., to Hospital Orderlies Training Depot, Halton; 1.2.27.

Flight Lieuts.: J. A. Perdrau, M.D., to Station H.Q., Spittlegate; 1.2.27. (Hon. Sqdn.-Ldr.) C. A. Meaden, to R.A.F. Station, Duxford; 1.2.27. R. L. C. Fisher, M.B., to Station H.Q., Kenley; 1.2.27. F. W. G. Smith, M.B., B.A., to H.Q., Air Defence of Great Britain, Uxbridge; 12.2.27. W. G. L. Wambeck and E. C. K. H. Foreman, to Hospital Orderlies Training Depot, Halton; 1.2.27. C. V. D. Rose, to No. 216 Sqdn., Egypt; 13.1.27.

Flying Officers: E. J. Jenkins, to No. 47 Sqdn., Egypt; 12.1.27. P. H. Perkins, to R.A.F. Station, Worthy Down; 1.2.27. P. D. Barling, M.B., to No. 4 Flying Training Sch., Egypt; 7.1.27. G. E. Church, M.B., to Research Lab. and Med. Officers' Sch. of Instruction; 1.2.27.



A GERMAN RECORD-BREAKER: The Rohrbach-Roland three-engined metal monoplane (of Luft Hansa) on which the German pilot Steindorf beat five world's records on February 4 at Staaken. With a load of 1,000 kg. (2,205 lbs.) he attained a speed of 165 k.p.h. (102.5 m.p.h.) over the 500 kms. (310.7 miles), beating the last record of 163.076 k.p.h. (101.1 m.p.h.) held by Mittelholzer (Switzerland). With 2,000 kg. (4,410 lbs.) load he beat four more records: duration, 4 hrs. 18 mins.; distance, 600 kms. (372.8 miles); speed, 100 kms.—173 k.p.h. (107.5 m.p.h.); 500 kms.—165 k.p.h. (102.5 m.p.h.). The four original records held by de Lamothe and Bajac, were respectively, 4 hrs. 4 mins. 13½ secs.; 500 kms.; 150.3 k.p.h. (93.18 m.p.h.); and 147.511 k.p.h. (91.4 m.p.h.).

CORRESPONDENCE

[The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.]

THE SAFETY FUEL TANK

[2151] I regret that I did not express myself more clearly in my article in THE AIRCRAFT ENGINEER on "The Problem of the Safety Fuel Tank," and am indebted to Mr. W. E. Gray for giving me an opportunity of making my meaning plain.

Except in the case indicated by Mr. Gray, the mixture of air and petrol vapour inside a fuel tank is not explosive. On a crash occurring, air immediately mingles with this mixture and it is then ready to ignite. Such ignition I term "evil results" whether the effect is explosion or ordinary combustion.

London, February 8, 1927.

F. L. M. BOOTHBY

THE "EVERLING" QUANTITIES

[2152] With reference to Mr. Vanier's suggestion (see THE AIRCRAFT ENGINEER, January 27, 1927, p. 7) that "high-speed factor" would be a better translation than "high-speed figure," I would like to support your translator in his choice of the word "figure." It is true that the Germans frequently use the word "zahl" where we use "coefficient" or "factor,"—e.g., *Ribungszahl* = coefficient of friction.

The Everling Quantities are not, however, used as a factor in any equation, such as "load factor," for instance. They are ratios used for comparative purposes to indicate the qualities of different machines, somewhat similar to the "Index Figures" used by "The Statist."

As it is of importance to use terms that are self-descriptive, I would like to suggest that we use the expressions "Speed Index Figure," "Distance Index Figure," and "Altitude Index Figure," until the terms are thoroughly familiar, when they might be shortened to "Speed Index," &c.

It is of historical interest to note that, in an article in the "Berichte und Abhandlungen der W.G.L." for April, 1923 (Heft 10), Professor Everling defines his Speed Index Figure as the propeller efficiency divided by the gliding angle

$\left(\frac{\eta}{\epsilon} = \eta \frac{G}{W}\right)$, whereas he now defines it as $\frac{\eta}{C_w}$.

In conclusion, I would like to suggest that the article would have appealed to a far wider circle if the German symbols and units had been converted into the corresponding English ones. A technical article in strange symbols is enough to make even a Stress-merchant sit up and take notice!

ERIC C. GIBBONS, A.F.R.Ae.S.

Maida Vale, N.W.6.

February 2, 1927.

[As regards the change in definition of "High-Speed Figure" to which Mr. Gibbons refers, a footnote in Dr. Everling's original article in the "ZFM" for May 28, 1926, explains this by referring to an article by H. Hermann in "ZFM" of November 30, 1920. As was stated in the introductory remarks to our translation of Dr. Everling's article which appeared in THE AIRCRAFT ENGINEER of November 25, 1926, the original article was accompanied by a number of footnotes, but in view of the fact that but few of our readers would be likely to have access to the German publications referred to, we did not include a translation of the footnotes.

We sympathise with our contributor in his desire for English units to be substituted for the German ones used in the translation, but perhaps he will draw some consolation from the fact that in the next issue of THE AIRCRAFT ENGINEER we shall publish an article on this subject, in which the author, Mr. H. A. Mettam, shows how to convert the Everling quantities into British units.

In any case, as we pointed out in our introduction to Dr. Everling's article, as the object of the "Everling Quantities" is to afford a means of comparing various machines, foreign with one another and with British, it is rather essential that a uniform system of units be employed.—ED.]

AIR MINISTRY NOTICE TO AIRMEN

Ostende (Steen) Aerodrome: Sheep Grazing

It is notified:—

1. Sheep grazing is allowed on the aerodrome at the following times:—
Winter .. 1000 to 1400 hours.
Summer .. 0900 to 1230 hours and 1600 to 2100 hours.

There will always be a clear space across the aerodrome, at least 100 metres in width, in a direction varying with the direction of the wind. Pilots are advised, whenever possible, to make a complete circuit of the aerodrome before landing.

(No. 7 of 1927.)

Wit and Wisdom from "The Overseas Airman" (Aboukir)

WE cull the following items from our Service contemporary, "The Overseas Airman"—a journal of the Royal Air Force beyond the seas, published at Aboukir:—

The morning after the night before (or at Christmas time). Airman, in bed, after watching his pal rummaging around his locker for some time: "What are you looking for?" His pal: "Nothing." Airman in bed: "You'll not find it there, you'll find it in that bottle on my locker where the whiskey was."

Commanding Officer: "Do you always acknowledge it when you know you are wrong?"

Airman: "No, sir, only when other people know it."

Cockney Airman: "What's yer nime, mite?" Yorky ditto: "Fred." Cockney Airman: "Fred! That ain't a nime, its the stuff yer sew buttons on wiv."

Heard on Fatigue. Sergt. to Rookie: (Well off)? "Here, Brown, you are not going to bring water in those disreputable trousers, are you?"

Brown: "Er, No, Sergeant, I am bringing it in this jolly old bucket, what!"

An advertisement for a new baby's feeding bottle ran as follows:—"When the baby has done drinking, it must be unscrewed, and laid in a cool place under the tap. If the baby does not thrive on fresh milk it should be boiled."

IMPORTS AND EXPORTS, 1925-1926

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910).

For 1910 and 1911 figures see FLIGHT for January 25, 1912.

For 1912 and 1913, see FLIGHT for January 17, 1914.

For 1914, see FLIGHT for January 15, 1915, and so on yearly, the figures for 1926 being given in FLIGHT, January 20, 1927.

	Imports.		Exports.		Re-Exports.	
	1925.	1926.	1925.	1926.	1925.	1926.
Jan. ..	£ 494	£ 1,850	£ 130,049	£ 49,021	£ —	£ —

NEW COMPANY REGISTERED

HENDERSON FLYING SCHOOL, LTD., Kibraz House, 15, Carrington Mews, Mayfair, W.1.—Capital £2,000 in £1 shares. Acquiring business of an instructor in aviation, aerial navigation and dealer in aeroplanes, aeroplane engines, parachutes and the like component parts and carried on by Lt.-Col. G. L. P. Henderson at Croydon Aerodrome, Croydon, and 15, Carrington Mews, Mayfair, W. First directors:—Lt.-Col. G. L. P. Henderson, B. William, Secretary, W. Bertram.

PUBLICATIONS RECEIVED

Bibliography of Aeronautics, 1923. U.S. National Advisory Committee for Aeronautics, Washington, D.C., U.S.A.

Kolben für Kraftfahrzeugmotoren. Deutsche Motor-Zeitschrift G.m.b.H. Müller-Berset-Strasse 17, Dresden.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1925

Published February 17, 1927

- 18,983. H. B. STRAUSS. Flying-machines. (264,546.)
26,915. C. G. RODECK. Mooring means for airships. (252,312.)
27,110. F. C. MORTON. Method for mounting blades of aircraft propeller. (264,603.)
28,754. H. J. POLLARD and BRISTOL AEROPLANE CO., LTD. Light-metal structures. (264,626.)
30,911. Soc. ANON. POUR L'EXPLOITATION DES BREVETS KUNZER. Apparatus for safely sending objects from aircraft to the ground. (260,932.)

APPLIED FOR IN 1926

Published February 17, 1927

- 21,679. J. DE LA CIERVA. Aircraft with rotative wings. (264,753.)

FLIGHT,

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C.2

Telephone: Gerrard 1828.

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* Foreign subscriptions must be remitted in British currency.